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ATTORNEY DOCKET NO. 06119/011002

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Steven Robbins  
Serial No.: 08/873,876  
Filed : June 12, 1997  
Title : RESILIENT SOLE FOR USE IN ARTICLES OF FOOTWEAR TO  
ENHANCE BALANCE AND STABILITY

Art Unit: 3208  
Examiner: Patterson

Assistant Commissioner for Patents  
Washington, DC 20231

DECLARATION UNDER 37 CFR §1.132

I, Steven Robbins, declare as follows:

1. I have examined Moronaga, United States Patent No. 4,633,598. Based on this examination, I am aware of one instance in which the patent refers to materials to be used to form the sole of a shoe:

In a preferred embodiment, each of the upper layer 2 and the lower layer 3 may be formed, as in the prior art insoles, of a foamed material including rubber foams such as natural rubbers and synthetic rubbers, for example, polyurethane rubber; and polyolefinic synthetic resin foams such as polyethylene and copolymer of ethylene with vinyl acetate (EVA). (Col. 2, lines 3-9.)

The patent also refers to materials for use in forming a shock absorptive formed material layer 4 laminated on the underside of the lower layer 3 at least at the heel portion:

Examples of such materials which are well known are those produced by foaming and bridging an elastomer material, such as rubber, EVA, etc., with a blocking agent; and incompletely bridged urethane foams. (Col. 2, lines 37-41.)

2. I have conducted or had conducted on my behalf resiliency testing of materials that I am aware have been used "in prior art insoles" and materials "which are well known" as shock absorptive materials. For each material, the testing determined a resiliency index as a ratio  $(R-M)/(P-M)$ , where R is the maximum recovered thickness within one second immediately following removal of a main load, M is a thickness measured when both a pre-load and the main load are applied, and P is a thickness measured when only the pre-load is applied. With this

definition, the resiliency index will have a value between 1 (high resiliency) and 0 (low resiliency). The testing indicated that none of these materials had a resiliency index less than 0.6.

3. The testing indicated that natural and synthetic rubbers used in shoes have resiliency indices greater than 0.9.

4. The testing indicated that EVA materials used in shoes had resiliency indices greater than 0.6, with more completely bridged EVA materials having resiliency indices greater than 0.8 and less completely bridged EVA materials having resiliency indices greater than 0.65.

5. I have conducted or had conducted on my behalf simplified testing of approximately 1,000 resilient materials used for applications other than footwear, such as gasketing, soundproofing, prosthesis construction, and flooring and carpet underpadding. The simplified testing, which is used for preliminary screening of large numbers of samples of materials, involves applying a deforming load to a sample material. The load is removed and the material is immediately examined for persisting visible deformation. Persisting deformation indicates a resiliency index of lower than 0.60. The accuracy of this simplified testing has been verified using the more rigorous approach described above. The simplified testing method is reliable, and displays extremely high test-retest reliability with independent technicians.

6. The simplified testing indicated that only two of the materials tested has resiliency indices less than 0.6. These materials, a PVC foam and a vinyl nitrile material, then were tested using the more rigorous approach.

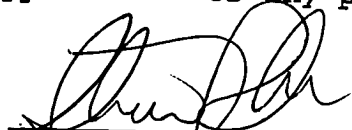
7. The PVC foam, which is marketed for use as underpadding for carpeted tennis courts, had a resiliency index of 0.156.

8. The vinyl nitrile material, which is commonly used in water safety devices, had a resiliency index of 0.218.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may

jeopardize the validity of the application or any patents issued thereon.

Date: APR 28, 1998

  
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Steven Robbins

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